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10/724,115	12/01/2003	Chong Mann Lim	SI-0045	9929

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EXAMINER	
ADDY, ANTHONY S	

ART UNIT	PAPER NUMBER
2681	

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,115	LIM, CHONG MANN	
	Examiner	Art Unit	
	Anthony S. Addy	2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. **Claim 14** is objected to because of the following informalities:

On **line 6** of **claim 14**, insert --a-- after "within".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-2 and 5-30 are rejected under 35 U.S.C. 102(e) as being anticipated by **Ji et al., U.S. Patent Number 6,954,444 (hereinafter Ji)**.

Regarding claim 1, Ji teaches a method for resource management of a call control processor (see abstract and Fig. 3), the method comprising: allocating resources

in response to an origination call or a page response call of a terminal in a mobile communication system (see col. 3, lines 22-40, col. 9, lines 19-42 and Fig. 3; steps 301-303 & 307); and sending a request again for allocation of available resources to the resource management processor within a predetermined time period, even if a resource management processor fails to allocate resources upon receiving the request for resource allocation (see col. 7, lines 34-55, col. 9, lines 19-49, col. 10, lines 10-15 and Fig. 3).

Regarding claim 2, Ji teaches all the limitations of claim 1. In addition, Ji teaches a method, further comprising: (a) sending a request for resource allocation at the call control processor to a resource management processor (see col. 9, lines 19-23 and Fig. 3; step 301); (b) if resource allocation is denied, transmitting resource allocation failure message at the resource management processor to the call control processor (see col. 9, lines 19-25); (c) if the call control processor receives resource allocation failure message, checking at the call control processor whether any other call has been released or whether any other processor has returned to a normal state from an abnormal state within the predetermined time (see col. 7, lines 34-55, col. 9, line 50 through col. 10, line 15 and Fig. 3; steps 304-306); and (d) if it is determined from process (c) that any call has been released or that any processor has returned to the normal state from the abnormal state within certain time, sending a request for re-allocation of available resources at the call control processor to the resource management processor (see col. 9, line 50 through col. 10, line 15 and Fig. 3; steps 304-307).

Regarding claim 5, Ji teaches all the limitations of claim 1. In addition, Ji teaches a method, wherein said pre-determined time period is the time allocated for waiting from the terminal's receipt of the base station's response message regarding the call connection request made by the terminal until the requested call is connected (see col. 7, lines 40-55 and col. 9, lines 19-43).

Regarding claim 6, Ji teaches all the limitations of claim 1. In addition, Ji teaches a method, wherein the resource management processor is at least one of a service data unit (SDU) management processor managing service data units (SDUs), a network control processor managing network resources, and a base station processor managing channels (see col.7, lines 63-67 and Fig. 2; shows a BTS controller 225 including a channel resource allocator 230 [i.e. reads on a resource management processor]).

Regarding claim 7, Ji teaches all the limitations of claim 2. In addition, Ji teaches a method, wherein said other processor of said processes (c) or (d) comprises a processor state block indicating a state of the relevant processor (see col. 9, lines 7-65 and col. 10, lines 10-47).

Regarding claim 8, Ji teaches all the limitations of claim 7. In addition, Ji teaches a method, wherein said other processor is at least one of a service data unit (SDU) management processor managing service data units (SDUs), a network control processor managing network resources, and a base station processor managing channels (see col. 9, lines 7-65 and col. 10, lines 10-47 and Fig. 2).

Regarding claim 9, Ji teaches all the limitations of claim 7. In addition, Ji teaches a method, wherein in said process (c) the call control processor checks whether any

other processor has returned to the normal state from the abnormal state by checking the processor state blocks of the other processors (see col. 9, lines 31-55 [i.e. the limitation "the call control processor checks whether any other processor has returned to the normal state from the abnormal state by checking the processor state blocks of the other processors" is met by the teaching of Ji that, "the BSC controller checks the contents of a channel selection table to determine if any traffic channels are not in use" since it is inherent the processors controlling the traffic channels would be in an abnormal state, i.e. unavailable due to the traffic channels in use and available (i.e. a normal state) when the traffic channels are not in use]).

Regarding claim 10, Ji teaches all the limitations of claim 2. In addition, Ji teaches a method, wherein in said process (c) if any other processor returns to the normal state from the abnormal state: said other processor notifies the call control processor of the return to the normal state; and the call control processor checks whether said other processor has returned to the normal state from the abnormal state through the other processor's notification of the event occurrence (see col. 7, line 56 through col. 8, line 8, col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 11, Ji teaches all the limitations of claim 2. In addition, Ji teaches a method, wherein in said process (c) the call control processor checks a base station manager (BSM) that manages the base station controller of the mobile communication system, thereby checking whether any other processor has returned to the normal state from the abnormal state (see col. 7, line 56 through col. 8, line 8, col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 12, Ji teaches all the limitations of claim 2. In addition, Ji teaches a method, wherein in said process (c) if any other processor returns to the normal state from the abnormal state: notifying, the call control processor of the occurrence of the return to the normal state, by the base station manager; and checking whether said other processor has returned to the normal state from the abnormal state through the base station manager's notification of the event occurrence (see col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 13, Ji teaches all the limitations of claim 1. In addition, Ji teaches a method, wherein the terminal is a mobile hand station (see col. 6, lines 6-10).

Regarding claim 14, Ji teaches a mobile communication system (see Fig. 1) comprising: a call control processor configured to send a request for resource allocation to a resource management processor (see col. 7, lines 56-63, col. 6, lines 18-25, col. 9, lines 19-23 and Fig. 2; shows a BSC 210 [i.e. It is inherent the BSC 210 includes a call control processor (CCP), since the BSC is very well known in the art to include a call control processor (CCP) for controlling a call and for managing wireless radio communication resources]), wherein the call control processor is configured to check whether any other call has been released or whether any other processor has returned to the normal state from the abnormal state within predetermined time period, if the call control processor receives a resource allocation failure message from the resource management processor (see col. 7, lines 34-55, col. 9, line 50 through col. 10, line 15 [i.e. the limitation "the call control processor is configured to check whether any other call has been released, if the call control processor receives a resource allocation failure

message from the resource management processor" is met by the teaching of Ji that, "if no traffic channel is available, channel resource allocator 230 [i.e. reads on a resource management processor] retrieves from the BSC traffic channels that have already established two or more soft handoff legs and if so drops one of the soft handoff legs to reallocate the channel element that handled the dropped handoff leg to now handle the new mobile station call origination]), and wherein the call control processor is configured to send a request for re-allocation of available resources to the resource management processor, if it is determined that any other call has been released or that any other processor has returned to the normal state from the abnormal state (see col. 9, line 50 through col. 10, line 15).

Regarding claim 15, Ji teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein the call control processor is in a base station controller (see col. 6, lines 18-25 and Fig. 2; shows a base station 101 including BSC 210 [i.e. It is inherent the BSC 210 includes a call control processor (CCP), since the BSC is very well known in the art to include a call control processor (CCP) for controlling a call and for managing wireless radio communication resources]).

Regarding claim 16, Ji teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein the resource management processor is at least one of a service data unit (SDU) management processor managing service data units (SDUs), a network control processor managing network resources, and a base station processor managing channels (see col.7, lines 63-67 and Fig. 2; shows a

BTS controller 225 including a channel resource allocator 230 [i.e. reads on a resource management processor]).

Regarding claim 17, Ji teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein said other processor comprises a processor state block indicating the state of the relevant processor (see col. 9, lines 7-65 and col. 10, lines 10-47).

Regarding claim 18, Ji teaches all the limitations of claim 17. In addition, Ji teaches a mobile communication system, wherein said other processor is at least one of a service data unit (SDU) management processor managing service data units (SDU), a network control processor managing network resources, and a base station processor managing channels (see col. 9, lines 7-65 and col. 10, lines 10-47 and Fig. 2).

Regarding claim 19, Ji teaches all the limitations of claim 17. In addition, Ji teaches a mobile communication system, wherein the call control processor is configured to check whether any other processor has returned to the normal state from the abnormal state by checking the processor state blocks of the other processors (see col. 9, lines 31-55 [i.e. the limitation "the call control processor is configured to check whether any other processor has returned to the normal state from the abnormal state by checking the processor state blocks of the other processors" is met by the teaching of Ji that, "the BSC controller checks the contents of a channel selection table to determine if any traffic channels are not in use" since it is inherent the processors controlling the traffic channels would be in an abnormal state, i.e. unavailable due to the

traffic channels in use and available (i.e. a normal state) when the traffic channels are not in use]).

Regarding claim 20, Ji teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein if any other processor returns to the normal state from the abnormal state: said other processor is configured to notify the call control processor of occurrence of the return to normal state; and the call control processor is configured to check whether said other processor has returned to the normal state from the abnormal state through the other processor's notification of the return to normal state (see col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 21, Ji teaches all the limitations of claim 15. In addition, Ji teaches a mobile communication system, wherein: the mobile communication system further comprises a base station manager configured to manage the base station controller, and the call control processor is configured to check whether said other processor has returned to the normal state from the abnormal state by checking the base station manager (see col. 7, line 56 through col. 8, line 8, col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 22, Ji teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein if any other processor returns to the normal state from the abnormal state: the base station manager is configured to notify the call control processor of the occurrence of the return to normal state; and the call control processor is configured to check whether said other processor has returned to the normal state from the abnormal state through the base station manager's notification

of the return to the normal state (see col. 7, line 56 through col. 8, line 8, col. 9, lines 31-55 and col. 10, lines 10-47).

Regarding claim 23, Ji teaches all the limitations of claim 14. In addition, Ji teaches a mobile communication system, wherein the mobile communication system comprises: at least one mobile hand station; at least one base station; at least one base station controller; and at least one mobile switching center (MSC) (see col. 6, lines 1-50 and Fig. 1).

Regarding claim 24, Ji teaches a method for resource management (see Fig. 3) comprising: receiving a request for resource allocation from a terminal (see col. 9, lines 19-23 and Fig. 3; step 301); requesting resource allocation (see col. 9, lines 25-36); monitoring resource availability during a predetermined connection time; and notifying the terminal of resource allocation failure after the predetermined connection time, a resource is unavailable within the predetermined connection time (see col. 7, lines 24-55, col. 9, lines 19-49 and col. 10, lines 10-34).

Regarding claim 25, Ji teaches all the limitations of claim 24. In addition, Ji teaches a method, wherein monitoring resource availability comprises: transmitting a resource allocation failure message to a call control processor, if resource allocation fails (see col. 9, lines 19-25 and col. 10, lines 23-33); and determining whether at least one resource becomes available during the predetermined connection time (see col. 9, lines 25-49 and col. 10, lines 34-47).

Regarding claim 26, Ji teaches all the limitations of claim 25. In addition, Ji teaches a method, wherein monitoring resource availability further comprises notifying

the call control processor of resource availability, if the requested resource becomes available within the predetermined connection time (see col. 7, lines 25-55 and col. 9, lines 19-49); repeating the request for resource allocation by the call control processor; and allocating the requested resource and connecting to the terminal (see col. 7, lines 25-55 and col. 9, line 23 through col. 10, line 15).

Regarding claim 27, Ji teaches all the limitations of claim 24. In addition, Ji teaches a method, wherein the resource allocation is provided by at least one of a service data unit (SDU) management processor managing service data units (SDUs), a network control processor managing network resources, and a base station processor managing channels (see col. 9, lines 7-65 and col. 10, lines 10-47 and Fig. 2).

Regarding claim 28, Ji teaches all the limitations of claim 24. In addition, Ji teaches a method, further comprising: allocating the requested resource, if the requested resource becomes available within the predetermined connection time; and connecting the terminal, without sending a resource allocation failure message to the terminal even if an initial resource request resulted in a failure (see col. 9, lines 19-49 and col. 7, lines 24-55).

Regarding claim 29, Ji teaches all the limitations of claim 24. In addition, Ji teaches a method, wherein the terminal is at least one of a mobile terminal, PDA, and mobile hand station (see col. 6, lines 6-10).

Regarding claim 30, Ji teaches all the limitations of claim 25. In addition, Ji teaches a method, wherein the call control processor is integrated into a base station (see col. 6, lines 18-25 and Fig. 2; shows a base station 101 including BSC 210 [i.e. It is

inherent the BSC 210 includes a call control processor (CCP), since the BSC is very well known in the art to include a call control processor (CCP) for controlling a call and for managing wireless radio communication resources]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ji et al., U.S. Patent Number 6,954,444 (hereinafter Ji)** as applied to claim 2 above, and further in view of **Ahn, U.S. Patent Number 6,466,795 (hereinafter Ahn).**

Regarding claim 3 and 4, Ji teaches all the limitations of claim 2. Ji fails to explicitly teach a method, wherein, if the allocation of resources in response to the available resource re-allocation request made by the call control processor in process (d) is denied, said processes (b) through (d) are conducted repeatedly and the number of repetitions of process (b) through (d) is limited to a predetermined number.

Ahn, however teaches a method for improving resource allocation in a wireless communications system between a terminal and a base station, wherein if the base station receives a call request from the terminal, the base station performs a typical resource allocation decision algorithm and sends a message that informs a user of failure or success of resource allocation to the terminal (see col. 3, lines 47-51).

According to Ahn, if the base station is incapable of processing a terminal call request, the base station repeatedly performs the resource allocation decision algorithm for a predetermined time to allocate resources for the terminal call request (see col. 3, lines 55-67 and Fig. 4).

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Ahn to the method of Ji to include, wherein, if the allocation of resources in response to the available resource re-allocation request made by the call control processor in process (d) is denied, said processes (b) through (d) are conducted repeatedly and the number of repetitions of process (b) through (d) is limited to a predetermined number, in order to enable a terminal to make a determination for a resource allocation request using resource information received from a base station, and thus reduce the probability of collision between the requests of base stations due to their synchronous resource allocation requests and increase the usability of the entire wireless resources as per the teachings of Ahn (see col. 4, lines 12-18).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chin, U.S. Patent Number 6,690,938 discloses system and method for reducing dropped calls in a wireless communications network.

Ishii et al., U.S. Publication Number 2005/0096089 A1 discloses base station apparatus and method of allocating resource at base station apparatus.

Hori et al., U.S. Publication Number 2005/0208948 A1 discloses mobile communication control method and radio network controller.

Li et al., U.S. Patent Number 6,459,902 discloses system and method for selectively blocking or dropping calls in a telecommunications network.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony S. Addy whose telephone number is 571-272-7795. The examiner can normally be reached on Mon-Thur 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph H. Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony S. Addy
February 16, 2006

Jemica M. Beamer
TEMICA BEAMER
PRIMARY EXAMINER
2/16/06